

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

ORDER NO. 91-228

WASTE DISCHARGE REQUIREMENTS  
FOR  
COLUSA COUNTY DEPARTMENT OF PUBLIC WORKS  
EVANS ROAD LANDFILL  
CLASS III AND CLASS II LANDFILLS  
CLASS II SURFACE IMPOUNDMENT  
COLUSA COUNTY

The California Regional Water Quality Control Board, Central Valley Region, (hereafter Board) finds that:

1. The Colusa County Department of Public Works (hereafter Discharger) submitted a Report of Waste Discharge, dated June 1991, a geologic/hydrogeologic evaluation report, dated 22 October 1990; a geotechnical stability analysis report on proposed ash disposal procedures, dated 31 January 1990; a slope stability report, dated 2 June 1989; and a Solid Waste Assessment Test (SWAT) Report, dated 1 July 1988.
2. The Report of Waste Discharge requests waste discharge requirements (WDRs) for construction of two Class II landfills and one Class II surface impoundment waste management units (WMUs) at the disposal facility, pursuant to California Code of Regulations (CCR), Title 23, Division 3, Chapter 15 (Chapter 15). The facility started operations in February 1970 and has been regulated under WDRs Order No. 73-17 and, since August 1988, WDRs Order No. 88-145.
3. The 123-acre facility, comprised of Assessor Parcel Numbers 018-160-46 and 68 is owned and operated by Colusa County Department of Public Works. The facility is seven miles southwest of Williams, in the southern half of the northeast quarter and a portion of the southern half of the northwest quarter of Section 15, T14N, R3W MDB&M. The facility location and layout are shown in Attachments A and B which are incorporated herein and made part of this Order. Waste disposal activities will occur on the entire 123 acres of the facility, as shown on Attachment B.
4. The waste management facility consists of the following existing WMUs: (1) SWD-1, an unlined active landfill WMU which is primarily an above-grade fill with an area of approximately 14 acres; (2) PCD-1, an unlined inactive landfill WMU constructed below grade and consisting of an unknown number of monofill trenches for disposal of pesticide containers within an area of approximately 1.1 acres; (3) EP-1, an unlined inactive surface impoundment covering approximately 2.2 acres, which was initially used as an inert and demolition debris disposal site and was later used for liquid evaporation; (4) EP-2A, an unlined active surface impoundment covering approximately 1.1 acres and used for liquid evaporation; (5) EPA-2B, an

unlined active surface impoundment covering approximately 1.1 acres and used for liquid evaporation.

5. The Discharger proposes to construct a Class II Landfill WMU (LF-1), a Class II monofill (LF-2), and at least one Class II surface impoundment (SI-1), as shown on Attachment B.

#### WASTES AND THEIR CLASSIFICATION

6. The Discharger proposes to continue discharging municipal solid waste, non-hazardous industrial waste, and construction and demolition waste at a rate of approximately 45 tons per day to SWD-1 until it is filled to capacity in 1992, and then to LF-1. Sewage sludge is also proposed for potential discharge to LF-1. Domestic septic tank and toilet vault pumpings (septage) are proposed to continue to be discharged at a rate of approximately 100 tons per month to EP-2A and EP-2B, until construction of SI-1. Cogeneration ash and sludge incineration ash are proposed to continue to be discharged to the final cap foundation layer of SWD-1, and then to monofill LF-2. These wastes are classified as 'designated', 'nonhazardous solid waste', or 'inert waste' using the criteria set forth in Chapter 15. The area served by the landfill is Colusa County. Discharge rates are expected to increase by 2% to 5% per year during the life of the site.
7. Leachate from leachate collection and removal systems (LCRSs) will be managed in a phased plan. Until construction of a permanent LCRS, a temporary holding tank will be utilized and leachate will either be used for dust control or will be pumped by truck to SI-1. The permanent LCRS will consist of leachate collection sumps and piping for direct transfer to SI-1.
8. The Discharger has discharged drilling muds, gas well pumping brines, and septage at rates of approximately 500,000 gallons per month to EP-2A, EP-2B, and EP-1. These WMUs do not comply with Chapter 15 and will require closure by 1 November 1993.
9. The Discharger has discharged as many as 1500 empty pesticide containers per month to PCD-1. Empty pesticide containers, if properly triple rinsed, are classified as 'nonhazardous solid waste'. Empty pesticide bag or sack type containers are classified as a 'designated' or 'hazardous' waste, depending on the quantity and type of residue remaining in the bags or sacks. Since January 1989, County Agricultural Department inspectors check containers at their generation point. If the generator passes the inspection, they receive a certificate allowing landfill disposal of their triple rinsed containers within five days of issuance.

### DESCRIPTION OF THE SITE

10. Land within 1000 feet of the facility is used for agriculture, with an orchard on the north and east sides and open grazing land on all other sides.
11. The site is a gently hilly oak woodland and grassland within the western side of the Sacramento Valley. Ground surface elevation ranges from 195 to 250 feet above mean sea level.
12. The site is within a distal portion of northeast draining alluvial fans emanating from the Coast Ranges. Geologic units include surficial recent alluvium to a depth below grade of 57 feet, underlain by alluvial deposits of the Tehama Formation. Recent alluvium consists of gravelly sand, silty sand, silt, and clay and is generally unsaturated, but serves as a pathway for recharge of underlying ground water. The Tehama Formation consists of poorly sorted sediments consisting of massive pale yellowish to greenish gray sandy silt, silty sand, and clayey silt enclosing lenses of sand and gravel. Surficial soils are moderately dense to dense, brown to red, with varying degrees of oxidation and occasional zones with subrounded to rounded gravels.
13. Apparent zones of low-permeability occur between depths of 25 to 40 feet and between 85 to 100 feet. Relatively high permeability occurs variably between depths of 45 to 90 feet. Laboratory tests of remolded soils indicate permeabilities ranging from  $1.3 \times 10^{-3}$  cm/sec to  $8.3 \times 10^{-8}$  cm/s.
14. Ground water occurs within the Tehama Formation at depths generally greater than 100 feet. Depths to ground water have been increasing probably because of prolonged drought conditions and increased irrigation well pumping. The Tehama Formation is a major Sacramento Valley aquifer. Seasonal perched ground water between depths of approximately 45 to 50 feet has been noted but investigations since 1972 have indicated no perched ground water. Ground water consistently flows east-northeast under gradients of 4.6 to 6.5 feet per 1000 feet. Using laboratory permeability results, ground water velocity is estimated at approximately 2.7 to 32.6 feet per year. Background ground water quality is good, with total dissolved solids (TDS) generally less than 200 mg/l.
15. Field and published information indicate that no active faults occur within the site. The nearest active fault is the Bartlett Springs fault approximately 25 miles to the west. A Maximum Credible Earthquake (MCE) magnitude of 6.75

COLUSA COUNTY DEPARTMENT OF PUBLIC WORKS  
EVANS ROAD LANDFILL  
CLASS III AND CLASS II LANDFILLS  
CLASS II SURFACE IMPOUNDMENT  
COLUSA COUNTY

-4-

with corresponding peak ground acceleration at the site of 0.11g is estimated for the Bartlett Springs Fault. The Discharger's consultants indicate that the potential for significant seismic effects at the site are low.

16. The beneficial uses of ground water are municipal and domestic supply, irrigation, stock watering, and industrial process and service supply.
17. The climate is typical of the upper Sacramento Valley with hot dry summers and cool moist winters. The facility receives approximately 16 inches of precipitation per year as estimated from the Williams Airport weather station based on precipitation records from 1940 through 1983. Evaporation for this facility is estimated at 54 inches per year based on measurements for 1990 at the Colusa weather station.
18. The 100-year and 1000-year, 24-hour precipitation events for the facility are 3.9 and 4.9 inches, respectively. These estimates are based on intensity-duration-frequency curves for the Colusa station for precipitation data from 1904 through 1980.
19. A small portion of the site is within Zone A of the Federal Insurance Administration (FIA) flood map, the 100-year flood plain of South Fork and Cortina Creeks. WMUs will be protected to prevent inundation or washouts due to floods with a minimum 100-year return period.
20. Surface drainage is to Cortina Creek which is tributary to the Sacramento River.
21. The beneficial uses of these surface waters as designated in the Water Quality Control Plan, Second Edition, for the Sacramento River Basin (5A) are domestic, municipal, agricultural, ground water recharge, recreation, esthetic enjoyment, navigation, freshwater replenishment, and preservation and enhancement of fish, wildlife, and other aquatic resources.

#### Existing Facility Conditions

22. Water quality monitoring performed since January 1989 indicates leakage of TDS and, to a lesser extent, chloride and sulfate in downgradient monitoring wells M-2 and M-4. TDS has ranged in monitoring well M-2 from 493 to 1120 mg/l and in M-4 from 740 to 1200 mg/l. TDS in background monitoring well M-1 has ranged from 120 to 200 mg/l. Past discharge of gas well brines and drilling muds to pond EP-1 is the major suspected source of the elevated TDS. The Discharger has ceased discharge of wastes to pond EP-1 and has initiated corrective actions which include characterization, removal, and proper

disposal of residual wastes. Volatile organic chemicals, as analyzed by EPA Methods 601 and 602, were not detected in monitoring wells from annual sampling rounds in 1989 and 1990.

23. Preliminary characterization of residual wastes in Ponds EP-1, EP-2A, and EP-2B indicates that the wastes are nonhazardous but individual samples may reflect localized variations with significant concentrations of lead and total petroleum hydrocarbons (TPH) as diesel. Water quality monitoring results indicate that lead and TPH as diesel from the residual wastes has not impacted ground water.
24. The Discharger has discharged incinerator ash, nonhazardous waste soils, and residual drilling mud wastes from pond EP-1 to the final cap foundation layer of SWD-1. The maximum thickness of these materials is approximately 15 feet. Discharged ash and waste soils appear to be geotechnically stable. However, the residual drilling mud wastes have excessive shrink-swell properties and the Discharger has indicated that they will be removed from the foundation layer.

#### DESIGN OF WASTE MANAGEMENT UNITS

25. The Discharger proposes to construct the landfill WMU LF-1 in phases, beginning at the southeastern corner of the property (Attachment B). Cell 1 of LF-1 will encompass approximately 5 acres and will allow disposal activities for approximately six years. The initial landfill footprint of LF-1 will cover about 22 acres when completed. The Discharger also proposes to construct the monofill WMU LF-2 in phases, beginning at the southwest corner of the property (Attachment B). Cell 1 of LF-2 will encompass approximately 5 acres and will allow disposal activities for approximately six years. The landfill footprint of LF-2 will cover about 50 acres when completed. The total final capacity of LF-1 and LF-2 is estimated to be 8.7 million cubic yards, with a 55-year site life.
26. Base grades for landfill construction will be achieved by excavation of 29 to 33 feet of soils. Maximum subgrade sidewall slopes will be about two horizontal to one vertical (2H:1V) for LF-1 and one horizontal to one vertical (1H:1V) for LF-2. Slopes on the final face will be a maximum of two horizontal to one vertical (2H:1V). The Discharger's consultant indicates that grading activities will result in adequate geotechnical Factors-of-Safety.
27. The proposed bottom liners for Cells 1 of LF-1 and LF-2 consists of at least 24 inches of compacted clay with a permeability of  $1 \times 10^{-6}$  cm/s or less. The clay

liner will be overlain by a 20-mil thick synthetic vapor barrier to prevent dessication. The vapor barrier will be overlain by a blanket LCRS.

28. The proposed LCRS for the bottom liners of Cells 1 of LF-1 and LF-2 will consist of a blanket drainage rock (1.25 inch rounded clean gravel) layer no less than 6 inches in thickness overlain by a 5-oz nonwoven filter fabric. Perforated 12-inch drainage pipe will be placed in central swales to act as a conduit for leachate drainage to sumps. The filter fabric will be overlain by a one foot operations layer consisting of sand or sandy gravel. The proposed LCRS for the sidewall liners of Cells 1 of LF-1 and LF-2 will consist of synthetic drainage net and filter fabric stapled to the clay liner.
29. The Discharger proposes to construct surface impoundment WMU SI-1 at the north end of the property (Attachment B). SI-1 will occupy approximately one acre and will be constructed with sidewall grades of 2H:1V and 1H:1V and a bottom grade of 1%. SI-1 will be double-lined, with an outer liner consisting of 2-feet of compacted clay with a permeability of  $1 \times 10^{-6}$  cm/s or less and an inner synthetic liner consisting of a 45-mil high density polyethylene (HDPE) or equivalent. The proposed LCRS for SI-1 will consist of synthetic drainage net and filter fabric. The bottom of SI-1 will be covered with 8 to 10 inches of native clays and silts to protect the inner liner from equipment during periodic removal of solids.

#### OPERATION OF THE FACILITY

30. The Discharger proposes to continue using a modified area fill method of operation. The operation involves spreading, compacting, and covering wastes upon previously emplaced waste cells. Unloading is directed at the base of the established working face (cell) and barricades for safety and daily width markers are used to laterally confine movement of vehicles and placement of waste. The size of the working face is determined by the rate of unloading but is kept at a minimum to minimize the exposed area. Loose solid waste is spread on a ramp (if possible) in layers three feet thick or less and compacted with three to five passes of compacting equipment. A minimum thickness of 6 inches of compacted soil is placed over the cell. Onsite equipment includes a 716 D6D dozer with ripper, a D6H dozer, a 613C Caterpillar scraper, and one water truck. Standby equipment is available for use at the landfill from the County Roads Department.
31. During wet weather operations, unloading of solid waste will take place from a tipping pad in close proximity to the working face. Demolition rock and gravel will be used to construct a suitable foundation for wet weather access.

COLUSA COUNTY DEPARTMENT OF PUBLIC WORKS  
EVANS ROAD LANDFILL  
CLASS III AND CLASS II LANDFILLS  
CLASS II SURFACE IMPOUNDMENT  
COLUSA COUNTY

-7-

32. Liquid wastes will be discharged to surface impoundment SI-1 from a vehicle access ramp with protected discharge surface. Wastewater treatment plant sludge, as required by the regulatory Process to Significantly Reduce Pathogens (PSRP), will be stabilized and transported at a minimum solids content of 20%. Sludge will immediately be incorporated in LF-1 with sufficient soil to prevent generation of free liquids.
33. Leachate removal will be performed in two phases. During construction of WMUs, temporary 100-gallon holding tanks will accumulate leachate from the outflow of each leachate transfer pipe. Transfer pipes will be valved to control drainage to the tanks. Leachate from the tanks will be pumped into a water tank for transport to surface impoundment SI-1 or for use as dust control. Permanent leachate removal will be from self-contained sumps. LCRS risers will allow annual testing and cleaning using sewer cleaning trucks.
34. The Discharger's consultant has submitted a HELP computer simulation for leachate generation and liquid mass balance to provide a basis for the proposed size of SI-1 and design of LCRSs. The liquid mass balance indicates that the pond will allow evaporation of all liquids within one year.

**Certification**

35. A California registered civil engineer will certify that the waste management unit at this facility meets the construction or prescriptive standards and performance goals of Chapter 15.

**CEQA CONSIDERATIONS**

36. The County of Colusa adopted a Final Environmental Impact Report on the project in accordance with the California Environmental Quality Act (Public Resources Code, Section 2100, et seq.) and the State Guidelines. The project may have the following impacts on water quality: (1) Cortina Creek drainage and South Fork Creek could be minimally impacted from erosion; and (2) Ground water could be degraded by leakage of leachate.
37. The Board has reviewed the EIR and these WDRs will mitigate or avoid the significant impacts on water quality as follows. Water quality degradation will be mitigated or eliminated through design features which protect ground water and minimize erosion. Ground water and vadose zone monitoring is proposed for early discovery of potentially serious problems.

### OTHER LEGAL REFERENCES

38. The Board has adopted the Water Quality Control Plan, Second Edition, for the Sacramento River Basin (5A). This Order implements the water quality objectives stated in that Plan. Furthermore, this Order implements the prescriptive standards and performance goals of Chapter 15, effective 27 November 1984.
39. The Board has notified the Discharger and interested agencies and persons of its intention to adopt the WDRs for this facility.
40. In a public hearing, the Board heard and considered all comments pertaining to this facility and discharge.

IT IS HEREBY ORDERED that Order No. 88-145 be rescinded and Colusa County Department of Public Works, in order to meet the provisions of Division 7 of the California Water Code and the regulations adopted thereunder, shall comply with the following:

#### A. PROHIBITIONS:

1. The discharge of 'hazardous waste' at this facility is prohibited. For the purposes of this Order, the term 'hazardous waste' is as defined in Chapter 15.
2. The discharge of 'designated waste' to Class III landfill SWD-1 is prohibited. The discharge of wastes to PCD-1 is prohibited.
3. The discharge of gas well brines and drilling mud wastes to ponds EP-2A and EP-2B is prohibited. The discharge of wastes to EP-1 is prohibited. The discharge of wastes to EP-2A and EP-2B after 1 July 1992 is prohibited.
4. The discharge to the landfill units of liquid or semi-solid waste (i.e., waste containing less than 50 percent solids), except dewatered sewage or water treatment sludge as provided in §2523(c) of Chapter 15, is prohibited.
5. The discharge to the landfill units of solid waste containing free liquid or moisture in excess of the waste's moisture holding capacity is prohibited.



COLUSA COUNTY DEPARTMENT OF PUBLIC WORKS  
EVANS ROAD LANDFILL  
CLASS III AND CLASS II LANDFILLS  
CLASS II SURFACE IMPOUNDMENT  
COLUSA COUNTY

-9-

6. The discharge of solid or liquid waste or leachate to surface waters, surface water drainage courses, or ground water is prohibited.
7. The discharge of waste to ponded water from any source is prohibited.
8. The discharge of waste within 100 feet of surface waters not related to landfill drainage structures is prohibited.
9. The discharge of wastes which have the potential to reduce or impair the integrity of containment structures or which, if commingled with other wastes in the unit, could produce violent reaction, heat or pressure, fire or explosion, toxic by-products, or reaction products which in turn: a) require a higher level of containment than provided by the unit, b) are 'restricted hazardous wastes', or c) impair the integrity of containment structures, is prohibited.
10. The discharge of nonhazardous contaminated soils to LF-1 or LF-2 shall be restricted to those soils containing non-detectable volatile organic constituents such as benzene, toluene, xylenes, and ethylbenzene (BTX&E), Total Petroleum Hydrocarbons (TPH) as gasoline, or volatile halogenated compounds, unless specific approval is obtained from the Executive Officer. Analytical detection limits shall be as close to EPA Method Detection Limits as practicable. Total concentration of TPH as diesel in discharged nonhazardous soils shall be below 700 mg/kg, unless specific approval is obtained from the Executive Officer.

**B. DISCHARGE SPECIFICATIONS:**

**General Specifications**

1. Wastes shall only be discharged into, and shall be confined to, the landfill waste management unit specifically designed for their containment as shown on Attachments B.
2. The Discharger shall implement waste characterization and load checking procedures necessary to preclude the discharge of 'hazardous waste' and unauthorized waste at this facility.
3. Use of alternate cover material must comply with Title 14, CCR, §17225.16 which states: "a material is suitable for use as a cover material if it will serve, when properly used, as a barrier to: (a) the emergence or attraction to the landfill of flies, rodents, or other vectors;

(b) the progress of fires within the landfill; (c) the escape of odor; and (d) excess infiltration of surface water runoff." Demonstration project proposals for use of alternate cover materials must be submitted to the Integrated Waste Management Board and the Board's Executive Officer for approval.

4. Prior to the discharge of waste to the waste management unit, all wells within 500 feet of the unit shall have sanitary seals which meet the requirements of the Colusa County Health Department or shall be properly abandoned. A record of the sealing and/or abandonment of such wells shall be sent to the Board and to the State Department of Water Resources.
5. Water used for landfill waste management unit maintenance shall be limited to the minimum amount necessary for dust control, moisture conditioning for repair of clay cover soil and to establish vegetation to prevent erosion.
6. The landfill shall be designed and constructed in accordance with Chapter 15 and this Order and approved by Board staff prior to construction and again prior to operation. The plans submitted to the Board for review and approval shall include, but not be limited to, the engineered design plans for the WMU, the construction specifications, a construction quality assurance (CQA) plan, and a revised water quality monitoring plan. The final construction report shall include, but not be limited to, construction record drawings for the WMU, a CQA report with a written summary of the CQA program and all test results and analyses, and a certification as described in Specification 15.

#### General WMU Construction

7. Materials used to construct liners shall have appropriate properties to ensure containment of wastes over the operating life, closure, and post-closure maintenance period of the WMU.
8. Materials used to construct leachate collection and removal systems (LCRSs) shall have appropriate physical and chemical properties to ensure the required transmission of leachate over the life of the landfill and the post-closure maintenance period.
9. Clay liners and caps for the landfill shall have a hydraulic conductivity of  $1 \times 10^{-6}$  cm/s or less and a minimum relative compaction of 90

percent. Hydraulic conductivities of liner materials shall be determined by laboratory tests using solutions with similar properties as the fluids that will be contained. Hydraulic conductivities of cap materials shall be determined by laboratory tests using water. Hydraulic conductivities determined through laboratory methods shall be confirmed by field testing of the finished liner. Construction methods and quality assurance procedures shall be sufficient to ensure that all parts of the liner and cap meet the hydraulic conductivity, moisture content, and compaction requirements. Proposed design parameters (e.g., soil type, Atterburg limits, moisture content, relative compaction), construction methods, and quality assurance procedures for clay liners shall be utilized in the construction of a test pad prior to liner construction to ensure adequacy of the design, construction, and testing methods.

10. The LCRS shall be designed, constructed, and maintained to collect twice the anticipated daily volume of leachate generated by the WMU and to prevent the buildup of hydraulic head on the underlying liner at any time. The depth of fluid in any LCRS sump shall be kept at a minimum.
11. Surface impoundments shall be designed, constructed, and operated to maintain a minimum of 2 feet of freeboard. The surface impoundments shall be designed and constructed to contain 1,000-year 24 hour and 100-year wet season precipitation conditions without using the required 2 feet of freeboard.
12. Leachate removed from surface impoundment LCRSs shall be discharged to the impoundment from which it originated or disposed of in a manner acceptable to the Board's Executive Officer. The Discharger shall propose to Board staff for approval a maximum leachate generation rate for surface impoundment LCRSs. If leachate generation exceeds that value, the Discharger shall immediately cease discharge of wastes to the surface impoundment and notify the Board in writing within seven days. Notification shall include a time schedule for remedial action to repair the inner liner or other action necessary to reduce leachate generation.
13. Surface impoundments shall be designed, constructed, and maintained to prevent scouring and/or erosion of the liners and other containment features at points of discharge to the impoundment and by wave action at the water line.

14. Solids which accumulate in surface impoundments shall be periodically removed to maintain minimum freeboard requirements and to maintain sufficient capacity for discharge of wastes.

#### **Supervision and Certification of Construction**

15. All containment structures shall be designed and constructed under the direct supervision of a California registered civil engineer or a certified engineering geologist and shall be certified by that individual as meeting the prescriptive standards and performance goals of Chapter 15 and the approved design plans and specifications prior to waste discharge.

#### **Water Quality Protection Standard**

16. The Water Quality Protection Standard for each WMU, as defined in §2550.2 of Chapter 15, shall consist of constituents of concern, their concentration limits, the point of compliance, and all water quality monitoring points. Constituents of concern shall include all waste constituents, their reaction products, and hazardous constituents that are reasonably expected to be in or derived from waste contained in the WMUs. Concentration limits in each medium shall consist of background concentrations of each constituent of concern or concentrations greater than background pursuant to §2550.4 of Chapter 15. For each monitoring event, the Discharger shall determine whether there is statistically significant evidence of a release from WMUs and whether the WMUs are in compliance with the Water Quality Protection Standard using procedures specified in §2550.7(e) of Chapter 15. Constituents of concern and monitoring parameters, their concentration limits, the point of compliance, and all water quality monitoring points are specified in Monitoring and Reporting Program No. 91-228.

#### **Protection from Storm Events**

17. Waste management units (WMUs) shall be designed, constructed, and operated to prevent inundation or washout due to floods with a 100-year return period. Class II WMUs and related containment structures shall be constructed and maintained to prevent, to the greatest extent possible, ponding, infiltration, inundation, erosion, slope failure, washout, and overtopping under 1000-year, 24-hour precipitation conditions.

18. Precipitation and drainage control systems shall be designed and constructed to accommodate the anticipated volume of precipitation and peak flows from surface runoff under 1000-year, 24-hour precipitation conditions.
19. Surface drainage from tributary areas and internal site drainage shall not contact or percolate through wastes.
20. Annually, prior to the anticipated rainy season, but no later than 1 November, any necessary erosion control measures shall be implemented, and any necessary construction, maintenance, or repairs of precipitation and drainage control facilities shall be completed to prevent erosion or flooding of the facility and to prevent surface drainage from contacting or percolating through wastes.

#### WMU Specifications

21. During the rainy season a minimum one-foot thickness of low permeability cover shall be maintained over all but the active disposal area of the landfill. The active disposal area shall be confined to the smallest area practicable based on the anticipated quantity of waste discharge and other waste management facility operations.
22. Methane and other landfill gases shall be adequately vented, removed from the landfill units, or otherwise controlled to prevent the danger of explosion, adverse health effects, nuisance conditions, or the impairment of beneficial uses of water due to migration through the vadose (unsaturated) zone.
23. Class II WMUs shall have a compacted clay liner with a minimum thickness of 24 inches.
24. Synthetic liners shall have a thickness of no case less than 40 mils. The synthetic liner shall be protected from punctures by a geotextile and/or engineered fill material.
25. Class II WMUs shall have a blanket-type LCRS immediately above the liner, which is designed and operated to prevent the development of hydraulic head on the liner.
26. Leachate generation by a landfill or surface impoundment unit LCRS shall not exceed 85% of the design capacity of a) the LCRS, or b) the sump pump. If leachate generation exceeds this value and/or if the

depth of fluid in an LCRS exceeds the level needed for safe pump operation, the Discharger shall immediately cease discharge of sludges and other high-moisture wastes to the landfill unit and shall notify the Board in writing within seven days. Notification shall include a time table for corrective action necessary to reduce leachate production.

#### WMU Closure Specifications

27. Landfill closure shall be under the direct supervision of a California registered civil engineer or certified engineering geologist.
28. The closed landfill shall be provided with at least two permanent monuments, installed by a licensed land surveyor, from which the location and elevation of all wastes, containment structures, and monitoring facilities can be determined throughout the post-closure maintenance period.
29. At closure, the landfill unit shall receive a final cover which is designed and constructed to function with minimum maintenance and consists, at a minimum, of a two-foot thick foundation layer which may contain waste materials, overlain by a one-foot thick clay liner, and finally by a one-foot thick vegetative soil layer, or an engineered equivalent final cover approved by the Board pursuant to Subsections 2510(b) and (c) of Chapter 15.
30. Vegetation shall be planted and maintained over each closed landfill unit. Vegetation shall be selected to require a minimum of irrigation and maintenance and shall have a rooting depth not in excess of the vegetative layer thickness.
31. Closed landfill units shall be graded to at least a three percent (3%) grade and maintained to prevent ponding.
32. Areas with slopes greater than ten percent, surface drainage courses, and areas subject to erosion by wind or water shall be designed and constructed to prevent such erosion.
33. At closure of surface impoundments, all residual wastes, including liquids, sludges, precipitates, settled solids, liner materials, and adjacent natural geologic materials contaminated by wastes, shall be completely removed and discharged to a WMU approved by the Board. If after reasonable attempts to remove contaminated natural geologic materials, the Discharger demonstrates that removal of all remaining

COLUSA COUNTY DEPARTMENT OF PUBLIC WORKS  
EVANS ROAD LANDFILL  
CLASS III AND CLASS II LANDFILLS  
CLASS II SURFACE IMPOUNDMENT  
COLUSA COUNTY

-15-

contamination is infeasible, the impoundment shall be closed as a landfill pursuant to Specifications B.27 through B.32 above.

34. A surface impoundment may be closed as a landfill pursuant to Specifications B.27 through B.32 above after recompaction of the residual wastes if: (a) residual wastes are classified as non-hazardous pursuant to Title 22, CCR, Division 4, Chapter 30; (b) containment features of the impoundment meet Class II landfill construction standards and performance goals as defined by Chapter 15; (c) all liquid wastes are removed or treated to eliminate free liquids; and (d) residual moisture does not exceed the moisture-holding capacity of residual wastes, even under closure conditions.

C. PROVISIONS:

1. The Discharger shall, in a timely manner, remove and relocate any wastes discharged at this facility in violation of this Order.
2. The Discharger shall maintain a copy of this Order at the facility and make it available at all times to facility operating personnel, who shall be familiar with its contents, and to regulatory agency personnel.
3. The Discharger shall notify the Board in writing of any proposed change in ownership or responsibility for construction or operation of the WMUs. The Discharger shall also notify the Board of a material change in the character, location, or volume of the waste discharge and of any proposed expansions or closure plans. This notification shall be given 180 days prior to the effective date of the change and shall be accompanied by an amended Report of Waste Discharge and any technical documents that are needed to demonstrate continued compliance with these WDRs.
4. The Discharger shall comply with Monitoring and Reporting Program No. 91-228.
5. The Discharger shall maintain legible records of the volume and type of each waste discharged at each WMU and the manner and location of discharge. Such records shall be maintained at the facility until the beginning of the post-closure maintenance period. These records shall be available for review by representatives of the Board and of the State Water Resources Control Board at any time during normal business hours. At the beginning of the post-closure maintenance period, copies of these records shall be sent to the Regional Board.

COLUSA COUNTY DEPARTMENT OF PUBLIC WORKS  
EVANS ROAD LANDFILL  
CLASS III AND CLASS II LANDFILLS  
CLASS II SURFACE IMPOUNDMENT  
COLUSA COUNTY

-16-

5. Prior to any on-site use or discharge of treated landfill leachate, other than storage in the above-ground tank, the Discharger shall demonstrate that such use or discharge will not degrade water quality. This demonstration shall be made in a technical report submitted for review and approval of the Board.
6. A load checking program dated January 1990 has been submitted but is in need of updating and implementation. By 1 March 1992, the Discharger shall submit to the Board for approval an updated report describing a periodic load-checking program to be implemented by the Discharger. The load checking program shall be adequately designed to ensure that 'hazardous wastes' are not discharged to the Class II landfill unit. This report shall include but not be limited to:
  - a. Number of random loads to be checked per week and/or month
  - b. Description of training program for on-site personnel and contract waste haulers
  - c. Record keeping and reporting program
  - d. Program implementation schedule
  - e. Alternatives for waste found to be not in compliance with this Order
  - f. Description of signing of facility and transfer stations.
7. The Discharger shall submit by 1 July 1992 for approval, a proposed water quality monitoring system and program in accordance with Article 5 of Chapter 15.
8. If the Discharger, through a detection monitoring program, or the Board finds that there is a statistically significant evidence for a release from any WMU for any monitoring parameter or constituent of concern (established pursuant to Monitoring and Reporting Program No. 91-228) or significant physical evidence of a release from any WMU, the Discharger shall notify the Board or acknowledge the Board's finding in writing within seven days, and shall implement verification procedures within 30 days, pursuant to §2550.7(e)(8)(E) of Chapter 15. Within 90 days, the Discharger shall submit to the Board the results of the resampling and either:
  - a. a report that demonstrates pursuant to §2550.8(k)(7) of Chapter 15 that a source other than the WMU caused the evidence of a release, or that the evidence resulted from an error in sampling, analysis, or evaluation, or from natural variation in ground water, surface water, or the unsaturated zone; or



- b. an amended Report of Waste Discharge for the establishment of an evaluation monitoring program, pursuant to §2550.9 of Chapter 15, to assess the nature and extent of the release from WMUs and to design a corrective action program meeting the requirements of §2550.10 of Chapter 15. Within 180 days of determining statistically significant evidence of a release, the Discharger shall submit an engineering feasibility study pursuant to §2550.8(k)(6) for corrective action program necessary to meet the requirements of §2550.10 of Chapter 15.
9. Within 90 days of establishing an evaluation monitoring program, the Discharger shall submit to the Board an amended Report of Waste Discharge pursuant to §2550.9(d) of Chapter 15. The amended Report of Waste Discharge shall address the establishment of a corrective action program pursuant to §2550.10 of Chapter 15.
10. The compliance period as defined in §2550.6 of Chapter 15 shall begin each time the Discharger initiates an evaluation monitoring program and shall continue until the Discharger can demonstrate either that the WMU has been in continuous compliance with the water quality protection standard for a period of three consecutive years, or that a release did not occur pursuant to §2550.9(f).
11. The Discharger or persons employed by the Discharger shall comply with all notice and reporting requirements of the State Department of Water Resources with regard to the construction, alteration, destruction, or abandonment of all monitoring wells used for compliance with this Order or with Monitoring and Reporting Program No. 91-228, as required by Sections 13750 through 13755 of the California Water Code.
12. The Discharger shall immediately notify the Board of any flooding, equipment failure, slope failure, or other change in site conditions which could impair the integrity of waste or leachate containment facilities or precipitation and drainage control structures.
13. The Discharger shall submit to the Board, for approval, a preliminary closure and post-closure maintenance plan not later than the time of application for each solid waste facilities permit application or review pursuant to Title 14, CCR, Chapter 5, Article 3.1, §18213(b). The closure and post-closure maintenance plan shall describe the methods and controls to be used to assure protection of the quality of surface and ground waters of the area during final operations and during any

subsequent use of the land. The plan must include: (1) an estimate of closure and post-closure maintenance costs; (2) a proposal for a trust fund or equivalent financial arrangement to finance closure and post-closure; and (3) the amount to be deposited in the trust fund or equivalent financial arrangement each year. This plan shall be prepared by or under the supervision of a California Registered civil engineer or certified engineering geologist.

14. The Discharger shall maintain waste containment facilities and precipitation and drainage controls, and shall continue to monitor ground water, leachate from the landfill units, the vadose zone, and surface waters per Monitoring and Reporting Program No. 91-228 throughout the post-closure maintenance period.
15. The post-closure maintenance period shall continue until the Board determines that remaining wastes in all WMUs will not threaten water quality.
16. The Discharger shall comply with the Standard Provisions and Reporting Requirements, dated 1 March 1991, which are hereby incorporated into this Order.
17. The owner of the waste management facility shall have the continuing responsibility to assure protection of usable waters from discharged wastes and from gases and leachate generated by discharged waste during the active life, closure, and post-closure maintenance period of the landfill and during subsequent use of the property for other purposes.
18. In the event of any change in ownership of this waste management facility, the Discharger shall notify the succeeding owner or operator in writing of the existence of this Order. A copy of that notification shall be sent to the Board.
19. The Discharger shall complete the following tasks in accordance with the time schedule listed below:

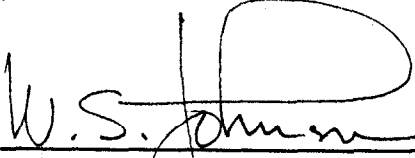
<u>Task</u>	<u>Compliance Date</u>
1. Submit Final Closure Plan for SWD-1, EP-1, EP-2A, and EP-2B.	1 Jan 1992

COLUSA COUNTY DEPARTMENT OF PUBLIC WORKS  
EVANS ROAD LANDFILL  
CLASS III AND CLASS II LANDFILLS  
CLASS II SURFACE IMPOUNDMENT  
COLUSA COUNTY

-19-

	<u>Task</u>	<u>Compliance Date</u>
2.	Submit Proposal for Revised Chapter 15 Article 5 Monitoring System with Time Schedule.	1 Jul 1992
3.	Submit Proposed Contract Specifications for Monitoring System.	1 Jan 1992
4.	Submit Final Design Plans, Specifications, Construction Quality Assurance (CQA) Plan, and Construction Schedule for SI-1 and Cells 1 of LF-1 and LF-2.	1 Jan 1992
5.	Submit Revised Load Checking Program.	1 Mar 1992
6.	Cease Discharge to EP-2A and EP-2B.	1 Jul 1992
7.	Initiate Closure of EP-1, EP-2A, and EP-2B.	1 Jul 1992
8.	Complete Closure of EP-1, EP-2A, and EP-2B.	1 Nov 1993
20.	The Discharger shall comply with all applicable provisions of Chapter 15 that are not specifically referred to in this Order.	
21.	The Board will review this Order periodically and will revise these requirements when necessary.	

I, WILLIAM H. CROOKS, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on 22 November 1991.

  
WILLIAM H. CROOKS, Executive Officer

SDW

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. 91-228  
FOR  
COLUSA COUNTY DEPARTMENT OF PUBLIC WORKS  
EVANS ROAD LANDFILL  
CLASS III AND CLASS II LANDFILLS  
CLASS II SURFACE IMPOUNDMENT  
COLUSA COUNTY

GENERAL WASTE MONITORING

The Discharger shall, on a monthly basis, separately monitor all wastes discharged to Class III landfill unit SWD-1, Class II landfill unit LF-1, Class II monofill LF-2, Class II surface impoundment SI-1, and unclassified ponds EP-2A and EP-2B. The Discharger shall report waste monitoring information to the Board as follows:

<u>Parameter</u>	<u>Report in Units of</u>	<u>Frequency of Reporting</u>
Quantity discharged	Tons, cubic yards, gallons	Quarterly
Type of material discharged	—	Quarterly
Source(s) of material discharged	—	Quarterly
Minimum elevation of discharge during quarter	Feet, M.S.L.	Annually
Capacity of landfill unit remaining	Percent	Annually
Summary of Load Checking Program	—	Quarterly
Minimum SI-1 freeboard	Feet and tenths	Quarterly

WASTE CHARACTERIZATION

Liquid Wastes

Liquid waste other than non-hazardous domestic or campground septage shall be specifically characterized as non-hazardous and compatible with containment facilities, prior to discharge to Class II surface impoundment SI-1. Hazardous characteristics shall be determined by criteria contained in Title 22, CCR, Division 4, Chapter 30, Article 11. Documentation showing confirmation and self-certification of the non-hazardous nature for each generator shall be continuously recorded and available upon Board staff's request. Copies of such documentation shall be retained at the facility.

Solid Wastes

Cogeneration ash and sludge incineration ash shall be characterized as non-hazardous and compatible with containment facilities prior to discharge to Class II ash monofill LF-2. Designated solid waste shall be characterized as non-hazardous and compatible with containment facilities prior to discharge to Class II landfill

MONITORING AND REPORTING PROGRAM  
EVANS ROAD LANDFILL  
CLASS III AND CLASS II LANDFILLS  
CLASS II SURFACE IMPOUNDMENT  
COLUSA COUNTY

-2-

LF-1. Hazardous characteristics shall be determined by criteria contained in Title 22, CCR, Division 4, Chapter 30, Article 11.

Non-hazardous contaminated soils shall also be characterized as containing non-detectable volatile organic constituents prior to discharge to LF-1 or LF-2. Such constituents may include benzene, toluene, xylenes, and ethylbenzene (BTX&E), Total Petroleum Hydrocarbons (TPH) as gasoline, volatile halogenated compounds, or other volatile compounds. Representative composite samples of non-hazardous fuel contaminated soils shall be prepared by EPA Method 5030 (TPH as gasoline) and EPA Method 3550 (TPH as diesel) and analyzed by GC/FID. Analytical detection limits for TPH as gasoline and TPH as diesel shall be as close to 1.0 mg/kg as practicable. Representative composite samples of non-hazardous fuel contaminated soils shall also be analyzed for BTX&E by EPA Method 8020. Analytical detection limits shall be as close to EPA Method Detection Limits as practicable.

Documentation showing confirmation and self-certification of the non-hazardous and non-volatile nature of each contaminated soil or ash load shall be continuously recorded and reported quarterly. Copies of such documentation shall be retained at the facility in a form available for inspection.

### LEACHATE MONITORING

Landfill unit LCRS sumps shall be inspected daily for leachate generation. Upon detection of leachate in a previously dry sump, the Discharger shall immediately sample the leachate and shall continue to sample the leachate at the following frequencies thereafter. Leachate samples for annual analyses shall be collected in January if liquid is present. If liquid is not present in January, at the first monthly water level measurement which indicates sufficient liquid for sampling. Representative leachate samples from each WMU shall be analyzed for the following:

<u>Parameter/Constituent</u>	<u>Report in Units of</u>	<u>Sampling Frequency</u>
a. Primary Waste Profile		
Flow Rate	Average gallons/day	Monthly
Temperature (field)	°F	Quarterly
Specific Conductance (field)	µmhos/cm	Quarterly
pH (field)	pH units	Quarterly
Chemical Oxygen Demand	mg/l	Quarterly
Total Dissolved Solids	mg/l	Quarterly
Chloride	mg/l	Quarterly

MONITORING AND REPORTING PROGRAM  
 EVANS ROAD LANDFILL  
 CLASS III AND CLASS II LANDFILLS  
 CLASS II SURFACE IMPOUNDMENT  
 COLUSA COUNTY

-3-

<u>Parameter/Constituent</u>	<u>Report in Units of</u>	<u>Sampling Frequency</u>
a. Primary Waste Profile (cont.)		
Dissolved Iron	mg/l	Quarterly
Calcium	mg/l	Annually
Magnesium	mg/l	Annually
Sulfate	mg/l	Annually
Sodium	mg/l	Annually
Potassium	mg/l	Annually
Manganese	mg/l	Annually
Carbonate	mg/l	Annually
Bicarbonate	mg/l	Annually
Nitrate (as N)	mg/l	Annually
Ammonia (as N)	mg/l	Annually
Sulfides (including H <sub>2</sub> S)	presence or absence	Annually
b. Organic Chemicals <sup>1</sup>		
Volatile Organics <sup>2</sup>	µg/l	Annually
Semi-Volatile Organics <sup>2</sup>	µg/l	Annually
TPH as diesel <sup>3</sup>	µg/l	Annually
TRPH <sup>3</sup>	mg/l	Annually
c. ICP and AA Metals		
Aluminum	mg/l	Annually
Antimony	mg/l	Annually
Arsenic <sup>4</sup>	mg/l	Annually
Cadmium	mg/l	Annually
Total Chromium	mg/l	Annually
Copper	mg/l	Annually
Lead	mg/l	Annually
Mercury <sup>4</sup>	mg/l	Annually
Nickel	mg/l	Annually
Selenium <sup>4</sup>	mg/l	Annually
Silver	mg/l	Annually
Thallium	mg/l	Annually
Zinc	mg/l	Annually

MONITORING AND REPORTING PROGRAM  
EVANS ROAD LANDFILL  
CLASS III AND CLASS II LANDFILLS  
CLASS II SURFACE IMPOUNDMENT  
COLUSA COUNTY

-4-

- 1 Organic chemicals shall be analyzed for, at a minimum, representative leachate samples from LF-1. If non-hazardous contaminated soils are discharged to LF-2, then corresponding representative leachate samples from LF-2 shall be analyzed annually for volatile organics, semi-volatile organics, TPH as diesel, and TRPH, unless approval is obtained from the Executive Officer for a reduced organic chemicals monitoring list.
- 2 EPA Methods 601 and 602, EPA Method 624, or EPA Method 8240 shall be used for analysis of volatile organics. EPA Method 625 or EPA Method 8270 shall be used for analysis of semi-volatile organics. Method detection limits and practical quantitation limits shall be reported. All peaks shall be reported, including those which cannot be quantified and/or specifically identified.
- 3 Total Petroleum Hydrocarbons (TPH) as diesel shall be prepared by EPA Method 3510 and analyzed by GC/FID. Total Recoverable Petroleum Hydrocarbon (TRPH) shall be analyzed by EPA Method 418.1-IR.
- 4 Atomic Absorption (AA) shall be used for analysis of these constituents.

**LCRS MONITORING**

All LCRSs shall be tested annually to demonstrate operation in conformance with waste discharge requirements. The results of these tests shall be reported to the Board annually by 15 October and shall include comparison with earlier tests made under comparable conditions.

**WATER QUALITY PROTECTION STANDARD**

The Water Quality Protection Standard, as defined in §2550.2 of Chapter 15, shall consist of constituents of concern, their concentration limits, the point of compliance, and all water quality monitoring points.

Constituents of concern shall include all waste constituents, reaction products, and hazardous constituents that are reasonably expected to be in or derived from waste contained in the waste management units (WMUs). Concentration limits in each medium shall consist of background concentrations of each constituent of concern or concentrations greater than background pursuant to §2550.4 of Chapter 15. For each monitoring period, the Discharger shall determine whether there is statistically significant evidence of a release from WMUs and whether the WMUs are in compliance with the Water Quality Protection Standard using procedures specified in §2550.7 of Chapter 15.

MONITORING AND REPORTING PROGRAM  
EVANS ROAD LANDFILL  
CLASS III AND CLASS II LANDFILLS  
CLASS II SURFACE IMPOUNDMENT  
COLUSA COUNTY

-5-

If the Discharger, through a detection monitoring program, or the Board finds that there is a statistically significant evidence for a release from any WMU for any monitoring parameter or constituent of concern or significant physical evidence of a release from any WMU, the Discharger shall notify the Board or acknowledge the Board's finding in writing within seven days, and shall implement verification procedures within 30 days, pursuant to §2550.7(e)(8)(E) of Chapter 15. Within 90 days, the Discharger shall submit to the Board the results of the resampling and either:

- a. a report that demonstrates pursuant to §2550.8(k)(7) of Chapter 15 that a source other than the WMU caused the evidence of a release, or that the evidence resulted from an error in sampling, analysis, or evaluation, or from natural variation in ground water, surface water, or the unsaturated zone; or
- b. an amended Report of Waste Discharge for the establishment of an evaluation monitoring program, pursuant to §2550.9 of Chapter 15, to assess the nature and extent of the release from WMUs and to design a corrective action program meeting the requirements of §2550.10 of Chapter 15. Within 180 days of determining statistically significant evidence of a release, the Discharger shall submit an engineering feasibility study pursuant to §2550.8(k)(6) for corrective action program necessary to meet the requirements of §2550.10 of Chapter 15.

### SURFACE WATER MONITORING

Existing surface water monitoring stations include upstream stations CP-1, CP-2, CP-3, and CP-4 and downstream station CP-5. By 1 July 1992, the Discharger shall propose a revised surface water monitoring program consisting of at least one upstream station and one downstream station.

Surface water samples shall be sampled at upstream and downstream stations during the first storm of the rainy season which produces significant flow and shall be analyzed for the following:

<u>Parameter/Constituent</u>	<u>Report in Units of</u>
Flow Rate	gpm
Temperature (field)	°F
Specific Conductance (field)	µmhos/cm
pH (field)	pH units
Suspended Solids	mg/l
Chemical Oxygen Demand	mg/l
Total Dissolved Solids	mg/l



MONITORING AND REPORTING PROGRAM  
EVANS ROAD LANDFILL  
CLASS III AND CLASS II LANDFILLS  
CLASS II SURFACE IMPOUNDMENT  
COLUSA COUNTY

-6-

<u>Parameter/Constituent (cont.)</u>	<u>Report in Units of</u>
Chloride	mg/l
Dissolved Iron	mg/l
Manganese	mg/l
Total Coliform	MPN/100 ml
Fecal Coliform	MPN/100 ml
Fecal Streptococci	MPN/100 ml
Organic Chemicals <sup>1</sup>	µg/l
ICP and AA Metals <sup>2</sup>	µg/l

<sup>1</sup> EPA Methods 601 and 602 or EPA Method 624 and EPA Method 418.1-IR (TRPH) shall be used for analysis of organic chemicals. Method detection limits and practical quantitation limits shall be reported. All peaks shall be reported, including those which cannot be quantified and/or specifically identified.

<sup>2</sup> See Leachate Monitoring above.

Surface water monitoring reports may be submitted with the corresponding quarterly ground water monitoring and shall include evaluation of potential impacts of the facility on surface water quality and compliance with the Water Quality Protection Standard.

**GROUND WATER AND VADOSE ZONE PORE FLUID  
MONITORING PROGRAM**

The existing ground water monitoring system consists of "background" monitoring well M-1 and downgradient monitoring wells M-2, M-3, and M-4. The existing vadose zone pore fluid monitoring system includes lysimeters LW-1, LW-2, LW-3, and LW-4.

Monitoring wells M-2 and M-4 show indication of leakage of Total Dissolved Solids (TDS) over background concentrations. The Discharger has indicated that the suspected source of the elevated TDS is leakage from gas well brines and drilling mud wastes discharged to unlined pond EP-1. The Discharger has ceased discharge of wastes to EP-1 and has initiated corrective actions.

The Discharger shall submit by 1 July 1992, a proposed revised ground water and vadose zone pore fluid monitoring system and program in accordance with Article 5 of Chapter 15. The water quality monitoring system and program shall be sufficient to demonstrate compliance with the Water Quality Protection Standard. Existing

MONITORING AND REPORTING PROGRAM  
EVANS ROAD LANDFILL  
CLASS III AND CLASS II LANDFILLS  
CLASS II SURFACE IMPOUNDMENT  
COLUSA COUNTY

-7-

water quality monitoring stations and data can be proposed for incorporation in the revised monitoring system and program. The proposal shall include:

1. Proposed conceptual design and location of water quality monitoring points including those at the point of compliance (§2550.7);
2. Proposed monitoring parameters, constituents of concern, and their monitoring frequencies (§2550.7 and §2550.8);
3. Proposed concentration limits and/or methods for establishing concentration limits (§2550.4); and,
4. Proposed statistical methods for determining statistically significant evidence for a release from WMUs.

The Discharger shall propose a separate monitoring system and program pursuant to §2550.10 of Chapter 15 for determining the effectiveness of EP-1 corrective actions.

#### **SAMPLING AND ANALYSIS PLAN**

A Sampling and Analysis Plan shall be submitted to Board staff by 1 July 1992 for approval. The sampling and analysis plan shall include specific methods for leachate, surface water, ground water, and vadose zone pore fluid water quality sample collection, handling, chain of custody control, analytical procedures, and field and laboratory quality assurance and quality control.

#### **REPORTING**

In reporting the monitoring data, the Discharger shall arrange the data in tabular form so that the date, the constituents, the concentrations, and the units are readily discernible. The data shall be summarized in such a manner so as to illustrate clearly the compliance with waste discharge requirements or lack thereof.

Quarterly, semiannual, and annual monitoring reports shall be submitted to the Board by the 15th day of the month following the calendar quarter in which the samples were taken or observations made.

The results of any monitoring done more frequently than required at the locations specified herein shall be reported to the Board.

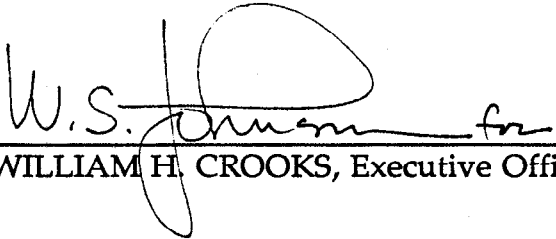
A report shall be submitted to the Board by 15 January of each year containing both tabular and graphical summaries of the monitoring data obtained during the previous year. The report shall include a discussion of compliance with the waste

MONITORING AND REPORTING PROGRAM  
EVANS ROAD LANDFILL  
CLASS III AND CLASS II LANDFILLS  
CLASS II SURFACE IMPOUNDMENT  
COLUSA COUNTY

-8-

discharge requirements. The Discharger may combine this information with the fourth quarter monitoring report for the facility.

The Discharger shall implement the above monitoring program on the effective date of this Order.

  
WILLIAM H. CROOKS, Executive Officer

22 November 1991

SDW

## INFORMATION SHEET

COLUSA COUNTY DEPARTMENT OF PUBLIC WORKS  
EVANS ROAD LANDFILL  
CLASS III AND CLASS II LANDFILLS  
CLASS II SURFACE IMPOUNDMENT  
COLUSA COUNTY

The Evans Road Landfill is an existing waste discharge to land facility, seven miles southwest of Williams, Colusa County. The facility is owned and operated by the Colusa County Department of Public Works.

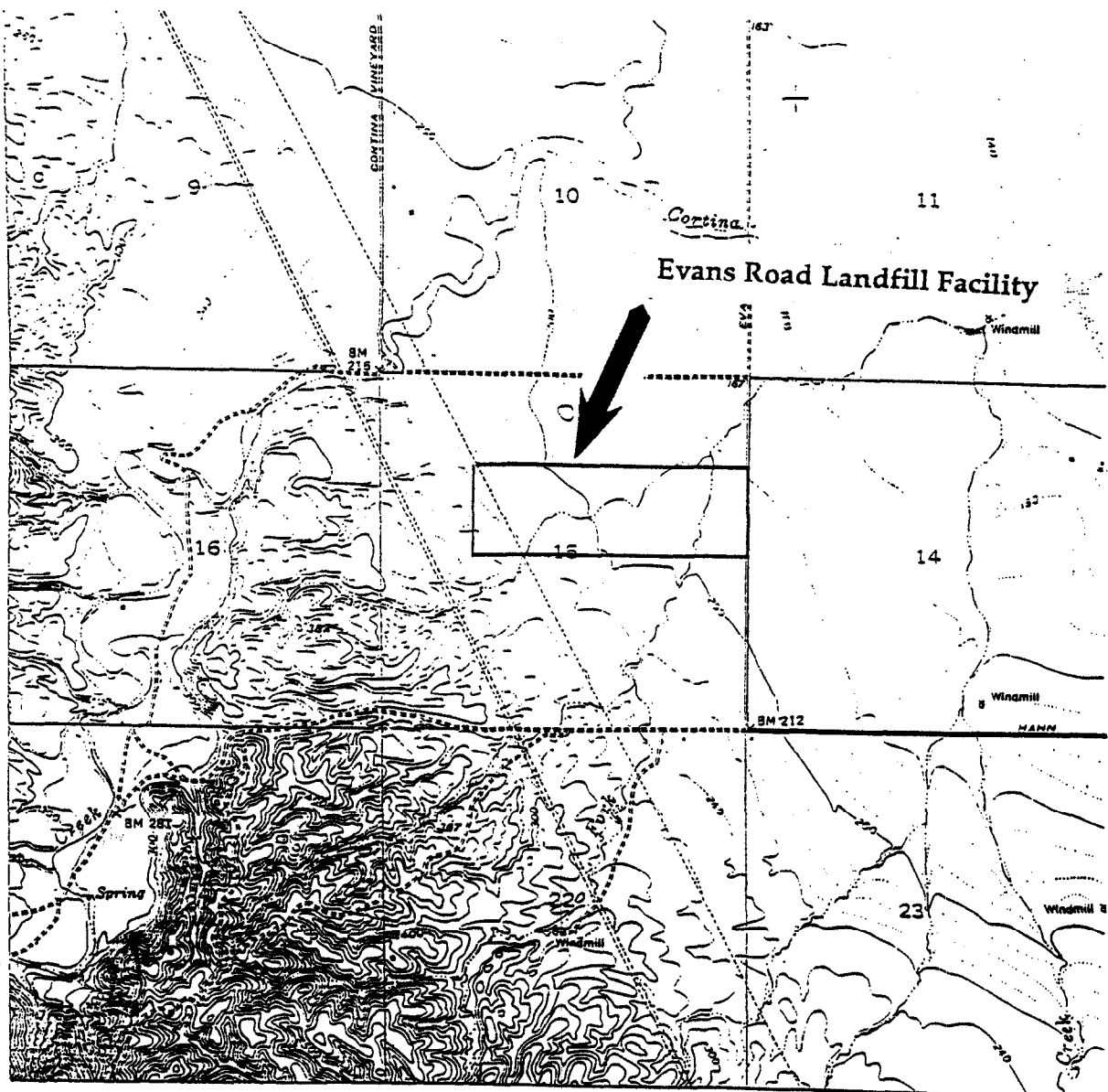
An existing Class III landfill waste management unit (WMU) is near capacity and is proposed to be closed and replaced by a Class II solid waste landfill WMU (LF-1). A Class II monofill (LF-2) is proposed for discharge of cogeneration and incineration ash. Two existing septage disposal ponds (EP-2A and EP-2B) do not comply with Chapter 15 and will be required to have closure completed by 1 November 1993. Discharge of wastes to EP-2A and EP-2B will be prohibited by 1 July 1992. Proposed Class II surface impoundment SI-1 will replace EP-2A and EP-2B and will also provide an alternative for disposal of leachate generated from landfill WMUs.

LF-1 and LF-2 will be constructed in accordance with Chapter 15 minimum prescriptive standards, consisting of a two-foot clay liner compacted to a maximum permeability of  $1 \times 10^{-6}$  cm/sec, overlain by a blanket leachate collection and removal system (LCRS). Class II surface impoundment SI-1 will also be constructed in accordance with Chapter 15 minimum prescriptive standards, consisting of an outer two-foot clay liner compacted to a maximum permeability of  $1 \times 10^{-6}$  cm/sec and inner synthetic liner with intervening blanket LCRS.

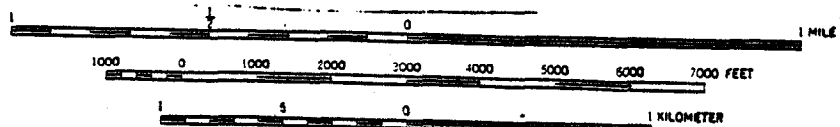
Past discharge of drilling mud wastes and gas well pumping brines to unlined pond EP-1 has been implicated as a source of elevated total dissolved solids (TDS) in monitoring wells M-2 and M-4. TDS in M-2 and M-4 is detected at 493 to 1200 mg/l, as compared to background concentrations at monitoring well M-1 of generally less than 200 mg/l. The Discharger has ceased discharge of wastes to EP-1 and has initiated corrective actions. EP-1 will be required to have closure completed by 1 November 1993.

Monitoring requirements will implement the recently adopted revised Article 5 of Chapter 15. Ground water generally occurs at depths of over 100 feet within the Tehama Formation, a major Sacramento Valley aquifer. Surface drainage is to Cortina Creek which is a tributary of the Sacramento River.

SDW-8/26/91



18°  
TRUE NORTH  
MAGNETIC NORTH  
APPROXIMATE MEAN  
DECLINATION, 1993



CONTOUR INTERVAL 20 FEET  
DOTTED LINES REPRESENT 5 FOOT CONTOURS  
DATUM IS MEAN SEA LEVEL

Base Map- USGS Cortina Creek 7.5'

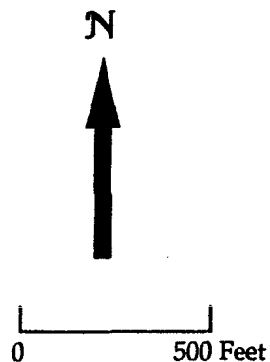
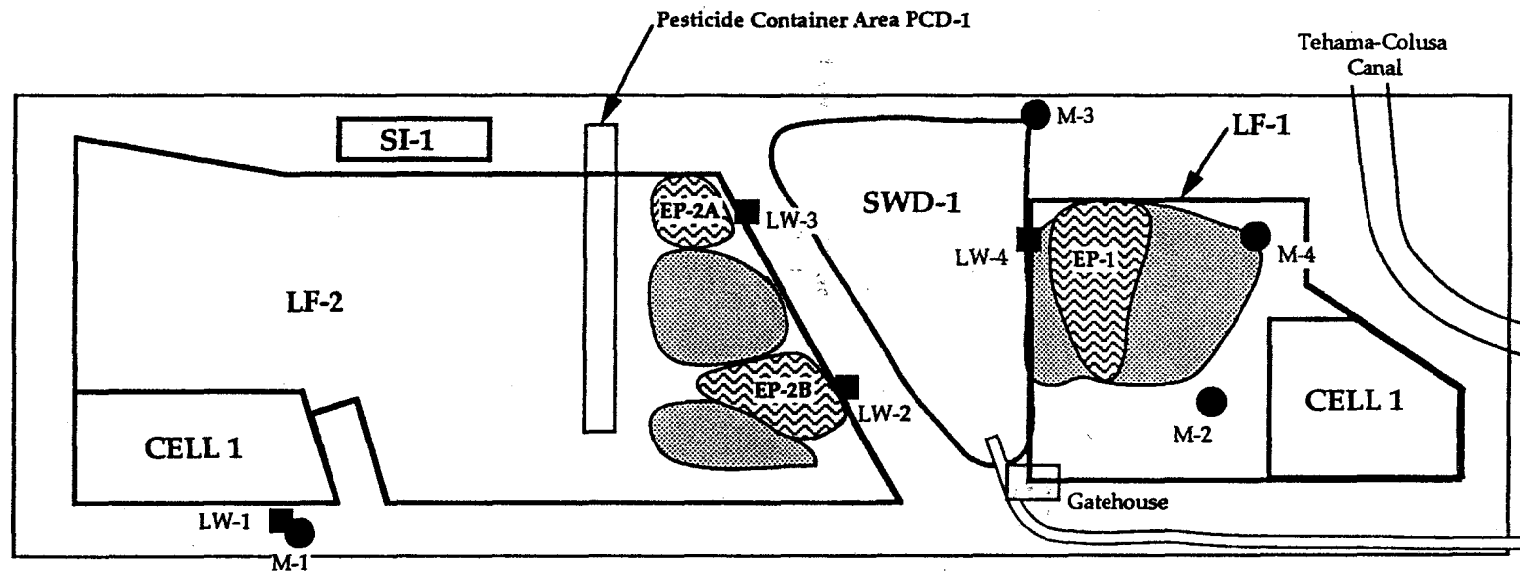
COLUSA COUNTY  
DEPARTMENT OF PUBLIC WORKS

EVANS ROAD LANDFILL FACILITY  
CLASS II AND CLASS III LANDFILLS  
CLASS II SURFACE IMPOUNDMENT

Section 15, T14N, R3W MDB&M

ATTACHMENT A  
SITE LOCATION MAP

SDW- 8/13/91



Explanation	
● M-1	Existing Monitoring Well
■ LW-1	Existing Lysimeter
□	Active and Proposed WMUs and Landfill WMU Cells
⊞	Disposal Pond Not in Compliance with Chapter 15
●	Former Solid Waste Disposal Areas

COLUSA COUNTY  
DEPARTMENT OF PUBLIC WORKS

EVANS ROAD LANDFILL FACILITY  
CLASS II AND CLASS III LANDFILLS  
CLASS II SURFACE IMPOUNDMENT

ATTACHMENT B  
SITE FEATURES

SDW- 8/13/91